

ABSTRACT

A display tray with a push-forward means for the display of product items in a back to front column, with the forwardmost item of the column being at all times urged to the front of the tray. A special mounting arrangement is provided for the tray in which product side guides, preferably width adjustable, also serve to mount the trays on a rectangular bar positioned horizontally at the back of a display gondola or the like, enabling a plurality of such trays to be mounted side by side and movable laterally for desired spacing and appearance. To particular advantage, the side guides are formed of a rigid sheet material, typically sheet metal, provided at front and back portions with transverse mounting rods engageable with base members of the tray to accommodate lateral adjustment of the side guides relative to the central portions of the tray.

WIDTH-ADJUSTABLE PRODUCT DISPLAY TRAY WITH NOVEL MOUNTING ARRANGEMENT

Background of the Invention

5 In connection with the in-store display of small product items, it is a common practice to provide display trays arranged to receive a plurality of product items in a front-to-back column, with a spring actuated pusher arrangement at the back of the column for automatically moving the product column forward each time a product is removed from the front of the display. This provides a more sales-
10 attractive display by keeping the merchandise always available at the front of the display where it is easily seen and easily removed.

 Inasmuch as products sold in such displays come in various sizes and shapes, it is typical to provide for width-adjustability of the trays to accommodate
15 different types of products. Advantageous forms of display trays of this type are shown in U.S. Patents No. 6,745,906, 6,866,155, 6,886,700, 6,889,855, and 7,032,761, owned by Trion Industries, Inc., assignee of this invention. The disclosures of these patents are incorporated herein by reference.

20 Store owners are presented with a wide variety of environments for the display of merchandise. Some are displayed on shelves, others are supported from panels or supports on gondolas, etc. It is desirable to enable such merchandisers to accommodate as many display circumstances as practicable with a modular display system that can readily be adapted to the particular

circumstances in which the display is to be presented. Historically, this has required the merchandisers to invest in and maintain a wide variety of different display systems, which represents significant cost and inconvenience to the merchandiser.

5

Summary of Invention

The present invention is directed to an improved form of product display tray of the type having adjustable side guides and a spring actuated pusher arrangement, in which basic components of the tray can be of standardized design with specific modifications to enable the tray to be supported at its back end by means of a gondola-mounted display bar. The arrangement greatly facilitates positioning and adjustment of the trays in an overall display arrangement, and allows for the desired width adjustment of the tray to accommodate different sized products.

15

The display tray of the invention is adapted and intended for mounting on a display bar of the general type illustrated in U.S. Patent No. 7,0438,628, by way of example. Pursuant to the invention, the adjustable side guides of the tray, typically formed of wire, are formed of panels of rigid sheet material, preferably sheet metal. The panels are formed at the back end with downwardly opening, shaped recesses configured to fit closely over the cross section of a mounting bar of the type mentioned above, which serves to support the display tray in an

outwardly projecting, cantilever fashion. The arrangement is such that the tray may be easily and quickly placed on the mounting bar and may be laterally positioned thereon by simply sliding the tray to one side or the other. The side guide panels, which serve to mount the tray, can be readily adjusted widthwise, with respect to the central portions of the tray, to accommodate different products.

For a more complete understanding of the above and other features and advantages of the invention, reference should be made to the following detailed description of a preferred embodiment thereof, and to the accompanying drawings.

Description of the Drawings

Fig. 1 is a side elevational view of a product display tray incorporating the features of the invention.

Fig. 2 is a top plan view of the tray of Fig. 1.

Fig. 3 is a front perspective view of the tray of Fig. 1.

Description of a Preferred Embodiment

Referring now to the drawings, the reference numeral 10 designates generally a product display tray of the general type referred to in the before mentioned patents. The tray 10 includes a base structure which is advantageously

in the form of a plurality of longitudinally extending wires 11-14, rigidly connected at the front and back to cross bars 15, 16. The longitudinal wires 11-14 and cross bars 15, 16 form a rigid base structure for the slideable support of display products 17. Front and back base members 18, 19, advantageously formed of plastic material, are formed with upwardly facing grooves 20, 21 for the snap-in reception of the cross bars 15, 16 respectively. A pusher element 22 is slideably engaged with the longitudinal wires 11-14 and is constantly urged forwardly by a coil spring element 23, the coiled portion 24 of which is contained between front and back walls 25, 26 of the pusher element.

10

Typically, the tray 10 is provided with a front barrier panel 27, which may be mounted on upturned front end portions 28, 29 of the outer base wire elements 11, 14. The barrier 27 serves as a front stop for the packages 17, and also to provide for product identification and pricing.

15

The construction of the tray 10 as thus far described is known from the patents previously mentioned. Additionally, it is conventional to provide such trays with side guides at each side for lateral confinement of products supported on the base structure. Typically, such side guides are formed of wire, with front and back elements of the wire extending transversely and received in transverse passages (not shown) in the base members 18, 19. Such an arrangement is described in, for example, the before mentioned Nagel U.S. Patent 6,886,700.

20

Pursuant to the present invention, the tray is arranged to be mounted in cantilever fashion on a rectangular mounting bar 30 (Fig. 1). The mounting bar 30 itself is mounted to the structure of a merchandising gondola or other structure, as described for example, in the before mentioned U.S. Patent 7,438,268. In the tray structure of the invention, side guides 31, 32 provided at opposite sides of the unit are formed of panels of rigid sheet material, preferably a sheet metal material. The sheet metal may be generally flat, but also may be provided where appropriate with ribs or the like for stiffening and strengthening. Each of the side panels 31, 32 is joined at front and back portions thereof with transversely disposed mounting wires 33, 34 (for the panel 31) and 35, 36 (for the panel 32). Preferably, these wires 33-36 are welded to lower edge portions of the panels 31, 32, and more preferably, the wires are butt welded directly to the inner surfaces of the panels. The transverse wires 33-36 are arranged, as shown in Fig. 2, to be received within transverse recesses (not specifically shown) formed in the plastic base members 18, 19. When the transverse wires are fully inserted in these transverse recesses, the side guide panels 31, 32 will be in their minimum width positions, as shown in Fig. 2. To accommodate products of greater width, one or both of the panels 31, 32 may be drawn laterally outward with respect to the base structure. Rather extensive width adjustment is accommodated, so long as the transverse wires 33-36 remain adequately engaged within the recesses of the base elements 18, 19.

As shown in Fig. 2, the transverse wires 33, 34 of the side panel 31 are offset somewhat forwardly with respect to the transverse wires 35, 36 of the opposite side guide 32 to accommodate for the offset spacing of the transverse passages in the base members 18, 19. By offsetting the mounting of the transverse wires, the side
5 guide panels 31, 32 themselves can be uniformly and symmetrically positioned relative to the base structure.

Pursuant to the invention, the side guide panels 31, 32 have rearward extensions 37, 38 which preferably project beyond of the back base member 19.
10 Each of these extensions is formed with a downwardly opening notch 39, 40 formed with parallel sides 41, 42 and a flat upper portion 43 connecting the flat sides 41, 42. The notch is dimensioned to closely fit over the mounting bar 30, as reflected in Fig. 1 such that, when the side panels are positioned on the mounting bar, the tray extends forwardly from the mounting bar in cantilever fashion. The mounting bar
15 itself is rigidly (i.e., non-rotatably) mounted to its gondola or other structure.

Inasmuch as the cantilever mounting of the trays 10 can impose significant loading on the back extensions 37, 38 of the side panels, it is beneficial to form strengthening ribs 45 in the extensions, in the immediate region of the notches 39,
20 40. The strengthening ribs may be formed by lateral displacement or shaping of the panel material. In the illustrated arrangement, such a displacement is provided in

the shape of an inverted "L", with a portion 46 extending downward behind the notches and a portion 47 extending forwardly above the notches.

5 The adjustable side panels provide a unique and economical way for mounting of display trays on horizontal mounting bars. The trays may be easily placed on and/or removed from the mounting bars and may be readily positioned and repositioned laterally along the bars as needed. For refilling of the tray, it can, if desired, be simply lifted off its mounting bar, refilled at a convenient location, and replaced. Likewise, the side panels 31, 32 can be set at any width, within the range
10 of the device, without in any way affecting the manner in which the tray is positioned on and removed from the mounting bar.

The use of the adjustable side panels enables the basic tray unit, consisting of the base structure, pusher, spring, etc. to be readily adapted for bar mounting.
15 Thus, the same basic unit can accommodate bar mounting or shelf mounting by simply substituting the side panels 31 for more conventional wire side guides. This greatly simplifies the requirements of the storekeeper in terms of inventory of display devices and the convenience of their use. Moreover, the display unit incorporating side panels as illustrated can also be presented as shelf-mounted unit by simply
20 supporting its base member 18, 19 on a display shelf. In the latter case, the rearward extensions of the side panels would not be functionally utilized.

It should be understood, of course, that the specific forms of the invention herein illustrated and described are intended to be representative only, as certain changes may be made therein without departing from the clear teachings of the disclosure. Accordingly, reference should be made to the following appended

5 claims in determining the full scope of the invention.

Claims:

1. A bar-mounted tray for the display of articles of merchandise, which comprises

(a) a base structure for supporting a plurality of articles of merchandise in a
5 front-to-back column,

(b) a barrier element at a forward end of said base structure serving to limit forward movement of a forwardmost article of merchandise in a column thereof, and

(c) side guides attached to said base structure at each lateral side thereof for
10 lateral confinement of said articles of merchandise, wherein

(d) the side guides are formed of generally flat plates of hard sheet material and extend substantially over a full length of said base structure,

(e) said side guide plates are each formed adjacent rearward ends thereof with a downwardly opening recess dimensioned for the close reception and
15 confinement of a merchandise support bar, whereby said tray is supported on said merchandise support bar in a forwardly projecting cantilever fashion by said side guide plates.

2. The tray of claim 1, wherein

20 (a) said side guide plates are formed of a shapeable material, and

(b) said plates are provided, in areas thereof adjacent said downwardly opening recesses, with lateral deformations for strengthening said plates adjacent said recesses.

5 3. The tray of claim 2, wherein

(a) said lateral deformations are formed above and rearwardly of said downwardly opening recess.

10 4. The tray of claim 1, wherein said side guide plates are formed of sheet metal.

5. The tray of claim 1, wherein

(a) said base structure includes front and back base supports, each having at least one transverse passage,

15 (b) said side guide plates having front and back guide rods extending laterally therefrom and engaged in said at least one transverse passage, whereby said plates may be adjusted laterally relative to said base structure.

6. The tray of claim 5, wherein

20 (a) each of said base supports is formed with front and back transverse passages,

(b) each of said side guide plates is provided with front and back guide rods engageable with selected transverse passages of said front and back base supports,

(c) said base supports having a width dimension and said transverse passages
5 extending thru said base supports over substantially the full width dimension thereof,

(d) said guide rods being received in said transverse passages for a distance greater than one-half said width dimension when said side guide plates are positioned at minimum width positions.

10

7. The tray of claim 5, wherein

(a) said side guide plates are formed of sheet steel,

(b) said guide rods are formed of steel wire, and

(c) said guide rods are welded to lower edge portions of said side guide plates

15 adjacent front and back ends of said plates.

8. The tray of claim 7, wherein

(a) said guide rods are butt welded to said side guide plates.

20 9. The tray of claim 7, wherein

(a) the guide rods for one side guide plate are offset in the front-to-back direction from the guide rods for the other side guide plate.

10. The tray of claim 1, wherein

(a) said downwardly opening recesses are of flat-sided configuration for reception over a merchandise support bar of rectangular cross section.

5

11. The tray of claim 1, wherein

(a) a pusher element is slideably mounted on said base structure for urging packages forwardly thereon.

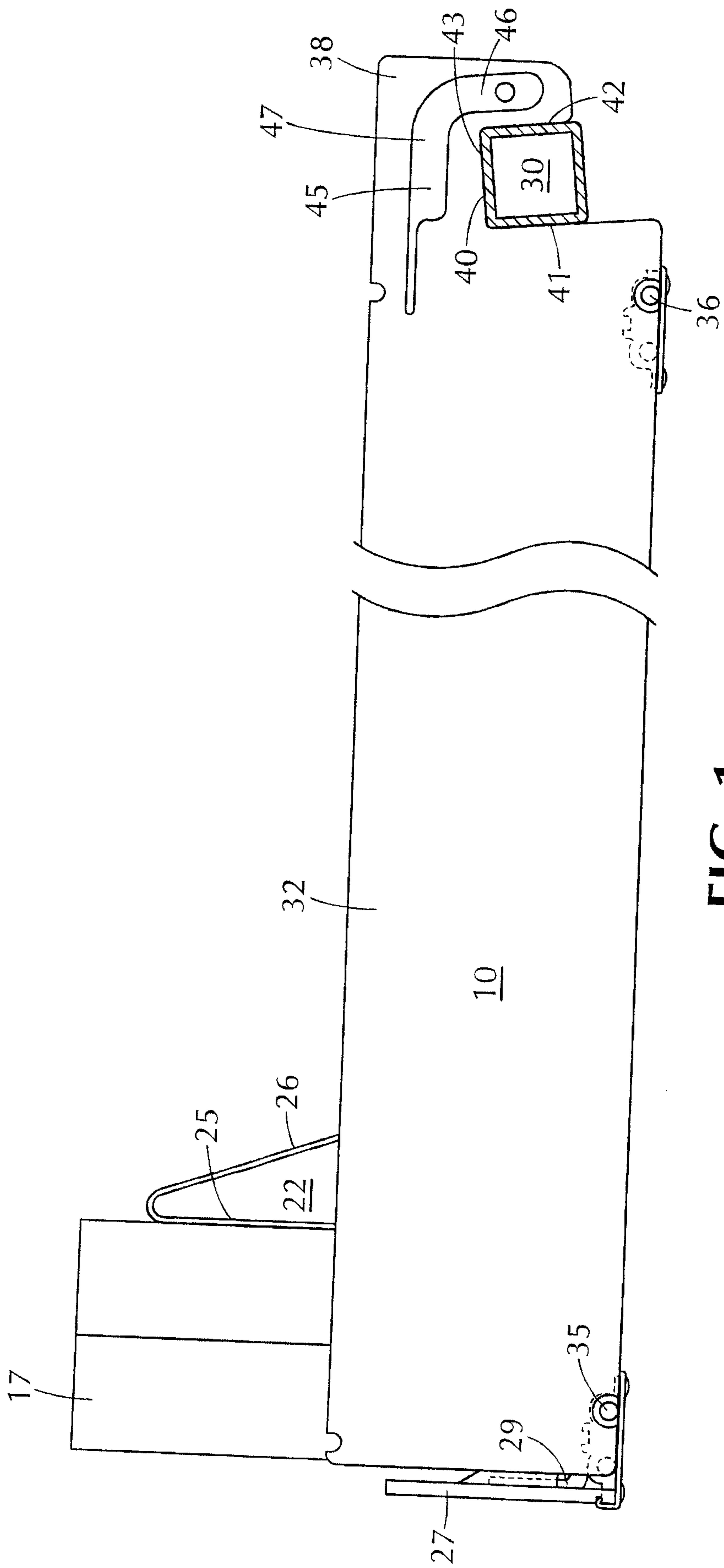


FIG. 1

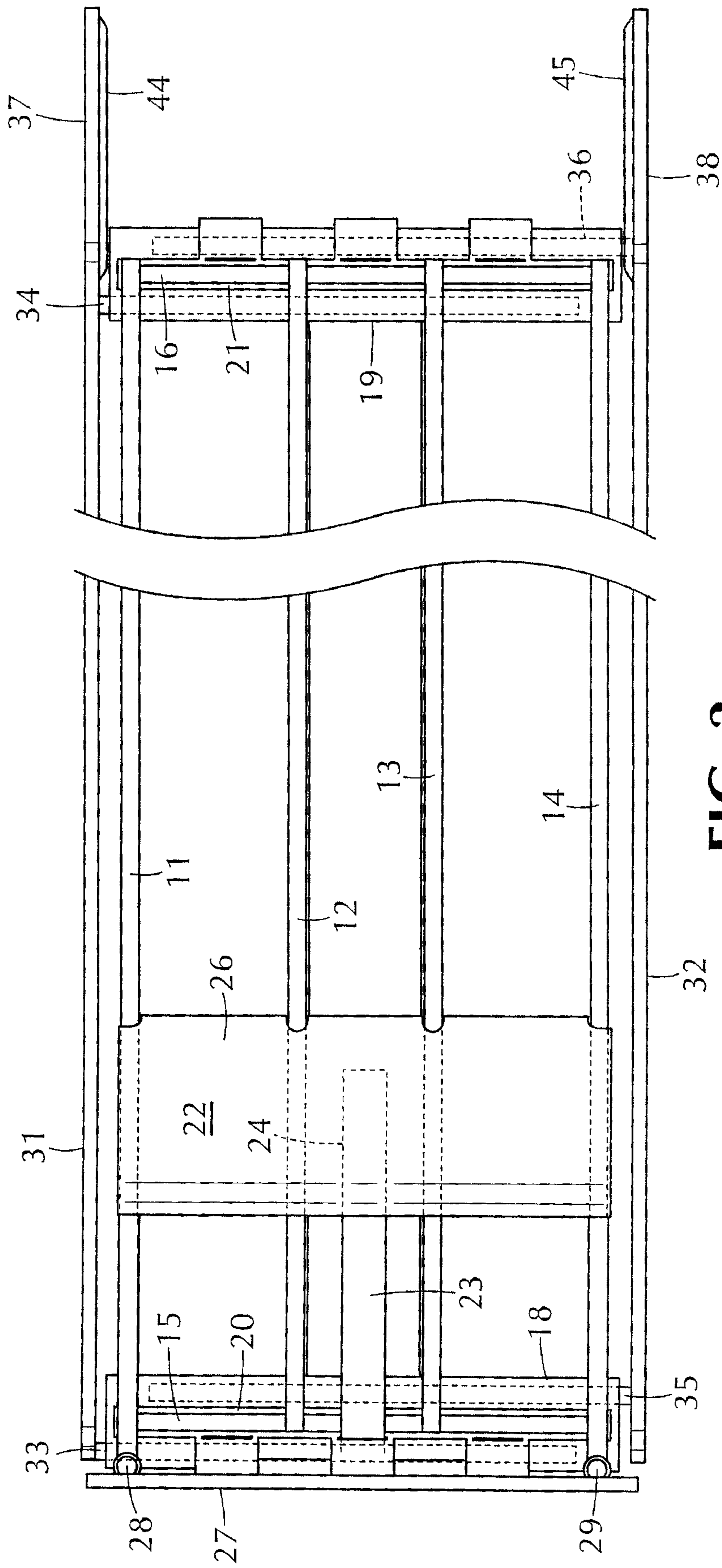


FIG. 2

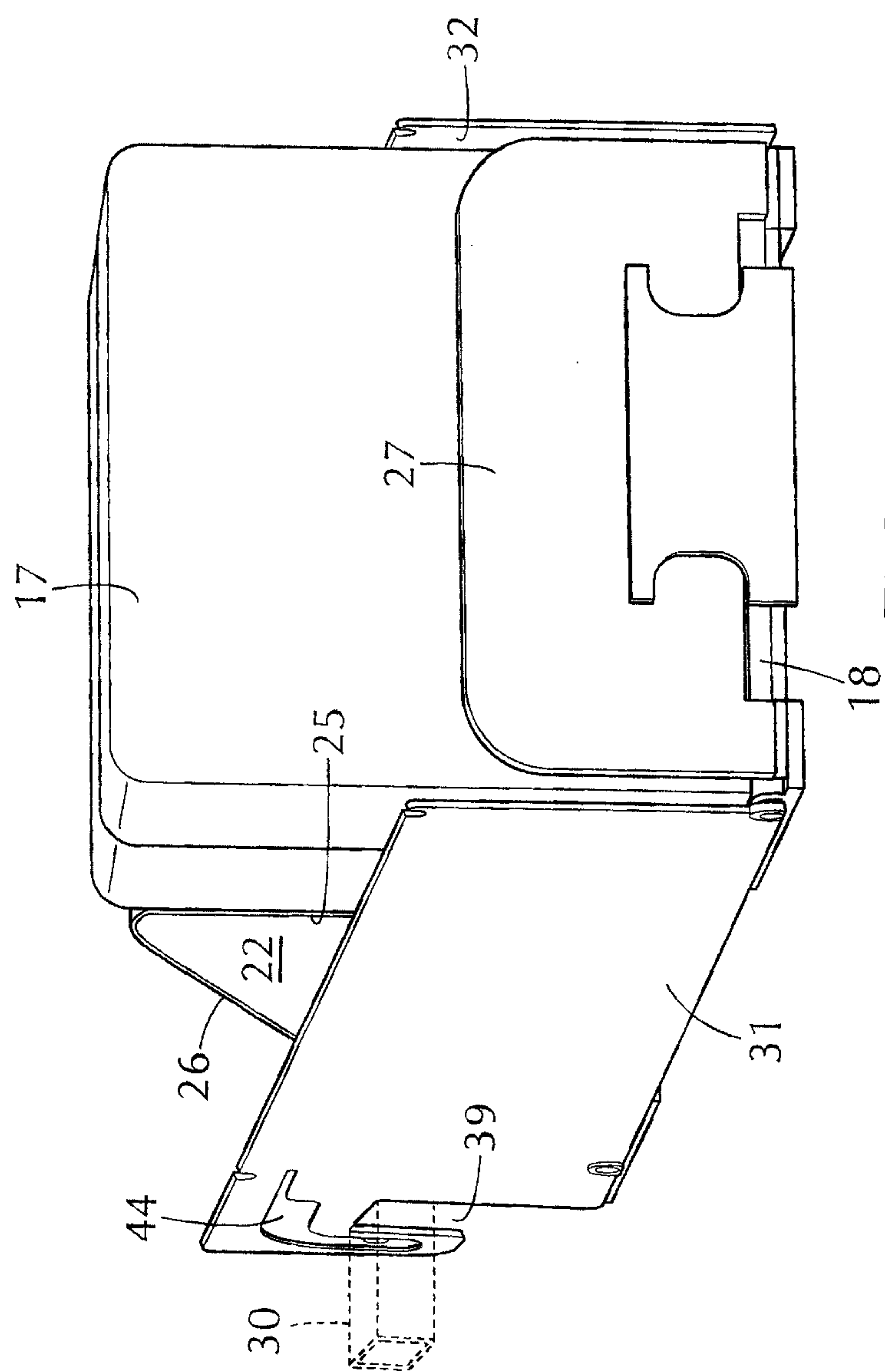


FIG. 3

